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IL-3

Catalog # PVGS1347

Specification

IL-3 - Product Information

Primary Accession P08700

Species
Human

Sequence
Asp20-Phe152, expressed with an N-terminal Met

Purity
> 95% as analyzed by SDS-PAGE
> 95% as analyzed by HPLC

Endotoxin Level
< 0.2 EU/ µg of protein by gel clotting method

Biological Activity
ED₅₀ < 0.5 ng/ml, measured by a cell proliferation assay using TF-1 cells, corresponding to a specific activity of > 2.0 × 10⁷ units/mg.

Expression System
E. coli

Formulation **Lyophilized after extensive dialysis against PBS.**

Reconstitution
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O up to 100 µg/ml.

Storage & Stability
Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

IL-3 - Additional Information

Gene ID 3562

Other Names
Interleukin-3, IL-3, Hematopoietic growth factor, Mast cell growth factor, MCGF, Multipotential colony-stimulating factor, P-cell-stimulating factor, IL3 (HGNC:6011)

Target Background
Interleukin-3 (IL-3) is a pleiotropic cytokine belonging to the interleukin family. IL-3 shares

similarities with Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF) and IL-5: they all have a four-helix bundle structure, are located on the same chromosomes in both human and mouse, are produced by activated T cells, and share receptors. The IL-3/IL-5/GM-CSF receptor family members are all heterodimeric, composed of a receptor-specific α chain and a common β chain. IL-3 is also called multi-colony stimulating factor since it stimulates the development and colony formation of multiple lineages of hematopoietic cells by activating intracellular pathways such as Ras-Raf-ERK and JAK/STAT. IL-3 inhibits apoptosis and promotes cell survival by targeting the anti-apoptotic bcl-2 gene family.

IL-3 - Protein Information

Name IL3 (HGNC:6011)

Function
Cytokine secreted predominantly by activated T-lymphocytes as well as mast cells and osteoblastic cells that controls the production and differentiation of hematopoietic progenitor cells into lineage- restricted cells (PubMed:2556442). Stimulates also mature basophils, eosinophils, and monocytes to become functionally activated (PubMed:10779277, PubMed:32889153). In addition, plays an important role in neural cell proliferation and survival (PubMed:23226269). Participates as well in bone homeostasis and inhibits osteoclast differentiation by preventing NF-kappa-B nuclear translocation and activation (PubMed:12816992). Mechanistically, exerts its biological effects through a receptor composed of IL3RA subunit and a signal transducing subunit IL3RB (PubMed:29374162). Receptor stimulation results in the rapid activation of JAK2 kinase activity leading to STAT5-mediated transcriptional program (By similarity). Alternatively, contributes to cell survival under oxidative stress in non- hematopoietic systems by activating pathways mediated by PI3K/AKT and ERK (PubMed:27862234).

Cellular Location
Secreted.

Tissue Location
Activated T-cells, mast cells, natural killer cells

IL-3 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

IL-3 - Images